



# UNITED STATES PATENT AND TRADEMARK OFFICE

JO  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,199	12/20/2001	Byoung S. Kwon	740.013US3	2369
23643	7590	09/25/2007	EXAMINER	
BARNES & THORNBURG LLP			LANDSMAN, ROBERT S	
11 SOUTH MERIDIAN			ART UNIT	PAPER NUMBER
INDIANAPOLIS, IN 46204			1647	
MAIL DATE		DELIVERY MODE		
09/25/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/027,199	KWON, BYOUNG S.
	<b>Examiner</b>	<b>Art Unit</b>
	Robert Landsman, Ph.D.	1647

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 23 December 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 2 and 3 is/are allowed.
- 6) Claim(s) 1 and 19-23 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: Sequence Comparisons A and B

## **DETAILED ACTION**

### ***1. Formal Matters***

- A. Claims 1-3 and 19-23 are pending and are the subject of this Office Action.
- B. Claims in this application are allowable, but the application was suspended pending a potential interference. The application which is the potential interfering reference has issued. Therefore, a rejection appears below.

### ***2. Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- A. Claims 1, 19-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Goodwin et al. (US Patent 7,211,259). Instant claim 1 recites an extracellular domain of SEQ ID NO:2 capable of binding H4-1BB. Goodwin teaches a polypeptide 100% identical to SEQ ID NO:2 of the instant application (see claim 3 and attached Sequence Comparison A) which comprises at least bases 41-805 of SEQ ID NO:1 (see attached Sequence Comparison B). Instant claim 19 recites a polynucleotide encoding an extracellular portion of SEQ ID NO:2 capable of binding a 4-1BB ligand. Claim 7 of Goodwin meets this limitation. Claim 21 and 22 of the instant invention recite expression vectors, including those operably linked for expression. These limitations are met by Goodwin (see claim 4 and column 10, lines 45-67). The limitation of claim 23 is also met (column 9, lines 54-58). Applicants should also keep in mind that claim 23 reads on SEQ ID NO:2, itself. The claim states that the vector comprises a polynucleotide which encodes a protein and is located C-terminal to the extracellular domain of SEQ ID NO:2. Since the extracellular domain is part of SEQ ID NO:2, the remaining polypeptide (SEQ ID NO:2 without its extracellular domain) would be considered a polypeptide which would be located C-terminal to its own extracellular domain and which, itself, is not SEQ ID NO:2 or its extracellular domain.

Art Unit: 1647

The US 7,211,259 reference is a U.S. patent that claims the rejected invention. An affidavit or declaration is inappropriate under 37 CFR 1.131(a) when the reference is claiming the same patentable invention, see MPEP § 2306. If the reference and this application are not commonly owned, the reference can only be overcome by establishing priority of invention through interference proceedings. See MPEP Chapter 2300 for information on initiating interference proceedings. If the reference and this application are commonly owned, the reference may be disqualified as prior art by an affidavit or declaration under 37 CFR 1.130. See MPEP § 718.

A 37 CFR 1.131 affidavit is ineffective to overcome a United States patent or patent application publication, not only where there is a verbatim correspondence between claims of the application and of the patent, but also where there is no patentable distinction between the respective claims. *In re Clark*, 457 F.2d 1004, 173 USPQ 359 (CCPA 1972); *In re Hidy*, 303 F.2d 954, 133 USPQ 650 (CCPA 1962); *In re Teague*, 254 F.2d 145, 117 USPQ 284 (CCPA 1958); *In re Ward*, 236 F.2d 428, 111 USPQ 101 (CCPA 1956); *In re Wagenhorst*, 62 F.2d 831, 16 USPQ 126 (CCPA 1933).

If the application (or patent under reexamination) and the domestic reference contain claims which are identical, or which are not patentably distinct, then the application and patent are claiming the “same patentable invention.” As provided in 37 CFR 41.203(a), an interference exists if the subject matter of a claim of one party would, if prior art, have anticipated or rendered obvious the subject matter of a claim of the opposing party and vice versa. An applicant who is claiming an invention which is identical to, or obvious in view of, the invention as claimed in a domestic patent or patent application publication cannot employ an affidavit under 37 CFR 1.131 as a means for avoiding an interference with the reference. To allow an applicant to do so would result in the issuance of two patents to the same invention (MPEP § 715.05).

### ***3. Conclusion***

A. Claims 2 and 3 are allowable

Art Unit: 1647

***Advisory information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Landsman whose telephone number is (571) 272-0888. The examiner can normally be reached on M-F 10 AM – 7 PM (eastern).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Manjunath Rao at 571-272-0939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Robert Landsman, Ph.D.  
Primary Examiner  
Art Unit 1647

```
>O <
O|0 IntelliGenetics
>O <

FastDB - Fast Pairwise Comparison of Sequences
Release 5.4
```

Results file us-10-027-199-2.res made by tport on Wed 12 Sep 107 16:10:12-PDT.

Query sequence being compared: US-10-027-199-2 (1-255)

Number of sequences searched: 7

Number of scores above cutoff: 7

Results of the initial comparison of US-10-027-199-2 (1-255) with:

File : 7211259.pep

	Score:	Mean	Median	Standard Deviation	Total Elapsed	Init. Score	Length Score	Opt. Score	Sig. Score	Frame
Similarity matrix	PAM-150									
Threshold level of sim.	16*									
Mismatch penalty	1									
Gap Penalty	5.00									
Gap Size Penalty	0.05									
Cutoff score	1									
Randomization group	0									
SEARCH STATISTICS										
Scores:	255	62	10	97.66						
Times:			CPU	00:00:00.00						
Number of residues:				1335						
Number of sequences searched:				7						
Number of scores above cutoff:				7						

The scores below are sorted by initial score.  
Significance is calculated based on initial score.

A 100% identical sequence to the query sequence was found:

Sequence Name	Description	Length	Score	Opt. Score	Sig. Score	Frame
US-08-910-449A-8	Sequence 8, Application US-10-027-199-2	255	255	255	1.98	0

1. US-08-910-449A-8 Sequence 8, Application US-10-027-199-2	
The list of other best scores is:	
2. US-08-910-449A-6 Sequence 6, Application US-10-027-199-2	
3. US-08-910-449A-1 Sequence 15, Application US-10-027-199-2	
4. US-08-910-449A-4 Sequence 4, Application US-10-027-199-2	
5. US-08-910-449A-2 Sequence 2, Application US-10-027-199-2	
6. US-08-910-449A-1 Sequence 17, Application US-10-027-199-2	
1. US-10-027-199-2 (1-255)	
US-08-910-449A-8 Sequence 8, Application US-08910449A	
Initial Score	255
Optimized Score	255
Residue Identity	100%
Gaps	0
Conservative Substitutions	0
X	10
MGNSCNIVATLVLVINFERTSLLQDPCSNCPAGTFCDNNRNOICSPCPNFSAGSQRTCDICRQCKGP	20
MGNSCNIVATLVLVINFERTSLLQDPCSNCPAGTFCDNNRQICSPCPNFSAGSQRTCDICRQCKGP	30
X	10
RTRKECSTSNAECDCTPGPHCLGAGGSMCRODKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	40
RTRKECSTSNAECDCTPGPHCLGAGGSMCQDKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	50
X	10
RTRKECSTSNAECDCTPGPHCLGAGGSMCQDKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	60
RTRKECSTSNAECDCTPGPHCLGAGGSMCQDKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	70
X	10
RTTRKECSTSNAECDCTPGPHCLGAGGSMCRODKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	80
RTTRKECSTSNAECDCTPGPHCLGAGGSMCQDKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	90
X	10
RTTRKECSTSNAECDCTPGPHCLGAGGSMCQDKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	100
RTTRKECSTSNAECDCTPGPHCLGAGGSMCQDKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	110
X	10
RTTRKECSTSNAECDCTPGPHCLGAGGSMCQDKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	120
RTTRKECSTSNAECDCTPGPHCLGAGGSMCQDKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	130
X	10
RTTRKECSTSNAECDCTPGPHCLGAGGSMCQDKCQCOELTKKGCRDCCGFPTNDQKRGICRPWTNCISLDK	140
S	150
SVLVNGTKERDVICGPSADLSPGQASSYTPPAPAREPHSPQISPFALALTSTALLPLFLFTLRFSSVKRG	160
SVLVNGTKERDVICGPSADLSPGQASSYTPPAPAREPHSPQISPFALALTSTALLPLFLFTLRFSSVKRG	170
S	160
SVLVNGTKERDVICGPSADLSPGQASSYTPPAPAREPHSPQISPFALALTSTALLPLFLFTLRFSSVKRG	180
S	170
SVLVNGTKERDVICGPSADLSPGQASSYTPPAPAREPHSPQISPFALALTSTALLPLFLFTLRFSSVKRG	190
S	180
SVLVNGTKERDVICGPSADLSPGQASSYTPPAPAREPHSPQISPFALALTSTALLPLFLFTLRFSSVKRG	200
RKQLLYIFKOPMPR PVQTTQEGSGCSRPEEEGGCL	220
RKQLLYIFKOPMPR PVQTTQEGSGCSRPEEEGGCL	230
RKQLLYIFKOPMPR PVQTTQEGSGCSRPEEEGGCL	240
RKQLLYIFKOPMPR PVQTTQEGSGCSRPEEEGGCL	250
X	250

> 0 <  
0| 0 IntelliGenetics  
> 0 <FastDB - Fast Pairwise Comparison of Sequences  
Release 5.4

Results file us-10-027-199-1.res made by tport on wed 12 Sep 107 16:14:44 - PDT.

Query sequence being compared: US-10-027-199-1 (1-838)  
Number of sequences searched: 10  
Number of scores above cutoff: 10Results of the initial comparison of US-10-027-199-1 (1-838) with:  
File : 7211259.seq

100-

N	-	100	110	120	130	140	150	160			
U	50-	100	110	120	130	140	150	160			
M	-	100	110	120	130	140	150	160			
B	-	100	110	120	130	140	150	160			
E	-	100	110	120	130	140	150	160			
R	-	100	110	120	130	140	150	160			
O	-	100	110	120	130	140	150	160			
F	10-	100	110	120	130	140	150	160			
S	-	100	110	120	130	140	150	160			
E	5-*	100	110	120	130	140	150	160			
Q	-	100	110	120	130	140	150	160			
U	-	100	110	120	130	140	150	160			
E	-	100	110	120	130	140	150	160			
N	-	100	110	120	130	140	150	160			
C	-	100	110	120	130	140	150	160			
S	0	100	110	120	130	140	150	160			
SCORE	0	93	186	279	372	465	558	651	744	837	93
STDEV	0	0	0	0	0	0	0	0	0	0	0

100-

X	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60	70	80	90	90	90
G	10	20	30	40	50	60	70	80	90	90	90
C	10	20	30	40	50	60	70	80	90	90	90
A	10	20	30	40	50	60	70	80	90	90	90
T	10	20	30	40	50	60					

A cont'd

AGTCAATAAGGGCTGTTGGACTTT  
|||||||  
AGTCAATAAGGGCTGTTGGACTTTCTGAAAAGAAGCAGGAATATGAGTCATCCGGTATCACAGCTTCA  
900 910 920 930 940 950 960

AA